

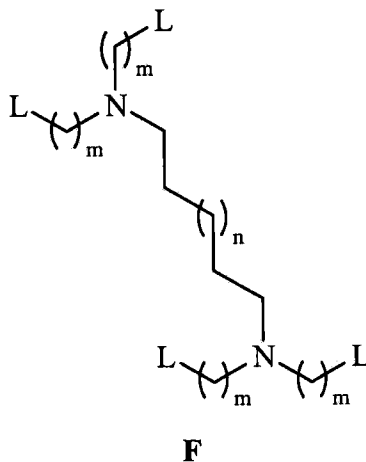
**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

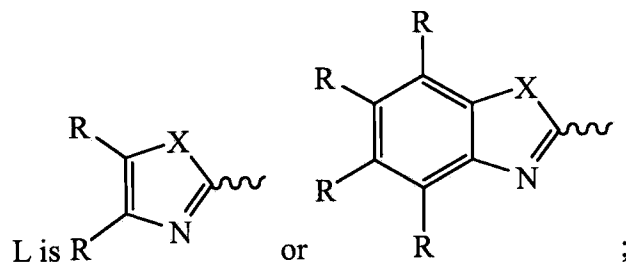
**Listing of Claims:**

1-57. (Canceled)

58. (Withdrawn-Currently Amended) A compound of formula F:



wherein, independently for each occurrence,



X is -N(R<sup>2</sup>)-, -O-, or -S-;

R is halogen, alkyl, alkenyl, alkynyl, hydroxyl, alkoxyl, acyl, acyloxy, acylamino, silyloxy, amino, nitro, sulfhydryl, alkylthio, imino, amido, phosphoryl, phosphonate, phosphine, carbonyl, carboxyl, carboxamide, anhydride, silyl, thioalkyl, alkylsulfonyl, arylsulfonyl, selenoalkyl, ketone, aldehyde, ester, heteroalkyl, cyano, guanidine, amidine, acetal, ketal, amine oxide, aryl, heteroaryl, aralkyl, heteroaralkyl, azido, aziridine, carbamoyl,

epoxide, hydroxamic acid, imide, oxime, sulfonamide, thioamide, thiocarbamate, urea, thiourea, or  $-(CH_2)_d-R_{80}$ ;

$R_{80}$  is carboxaldehyde, carboxylate, carboxamido, alkoxycarbonyl, aryloxy carbonyl, ammonium, aryl, heteroaryl, cycloalkyl, cycloalkenyl, heterocyclyl, polycyclyl, amino acid, peptide, saccharide, ribonucleic acid, or (deoxy)ribonucleic acid, ~~or ligand for a G-protein-coupled receptor;~~

$R_2$  is H or a lipophilic group;

$d$  is an integer in the range 0 to 12 inclusive;

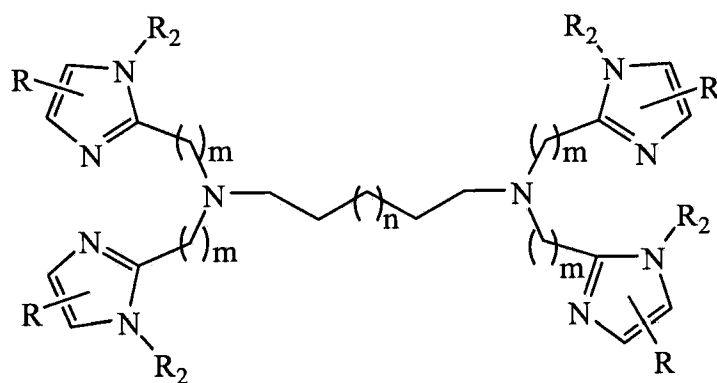
$m$  is an integer in the range 0 to 6 inclusive; and

$n$  is an integer in the range 0 to 6 inclusive.

59. (Withdrawn) The compound of claim 58, wherein the compound is complexed with a radionuclide.

60. (Withdrawn) The compound of claim 58, wherein the compound is complexed with a radionuclide, wherein the radionuclide is technetium or rhenium.

61. (Withdrawn-Currently Amended) A compound of formula **G**:



**G**

wherein, independently for each occurrence,

$R$  is absent or present 1 or 2 times;

$R$  is halogen, alkyl, alkenyl, alkynyl, hydroxyl, alkoxyl, acyl, acyloxy, acylamino, silyloxy, amino, nitro, sulfhydryl, alkylthio, imino, amido, phosphoryl,

phosphonate, phosphine, carbonyl, carboxyl, carboxamide, anhydride, silyl, thioalkyl, alkylsulfonyl, arylsulfonyl, selenoalkyl, ketone, aldehyde, ester, heteroalkyl, cyano, guanidine, amidine, acetal, ketal, amine oxide, aryl, heteroaryl, aralkyl, heteroaralkyl, azido, aziridine, carbamoyl, epoxide, hydroxamic acid, imide, oxime, sulfonamide, thioamide, thiocarbamate, urea, thiourea, or  $-(CH_2)_d-R_{80}$ ;

$R_{80}$  is carboxaldehyde, carboxylate, carboxamido, alkoxycarbonyl, aryloxy carbonyl, ammonium, aryl, heteroaryl, cycloalkyl, cycloalkenyl, heterocyclyl, polycyclyl, amino acid, peptide, saccharide, ribonucleic acid, or (deoxy)ribonucleic acid, ~~or ligand for a G-protein coupled receptor~~;

$R_2$  is H or a lipophilic group;

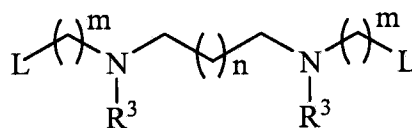
$d$  is an integer in the range 0 to 12 inclusive;

$m$  is an integer in the range 0 to 6 inclusive; and

$n$  is an integer in the range 0 to 6 inclusive.

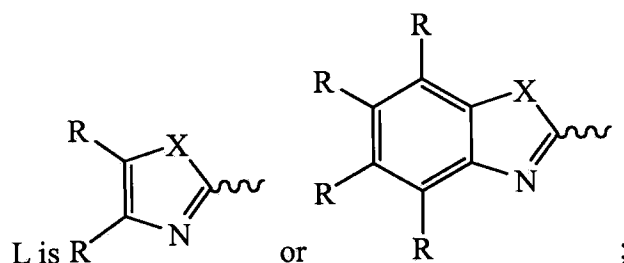
62. (Withdrawn) The compound of claim 61, wherein the compound is complexed with a radionuclide.
63. (Withdrawn) The compound of claim 61, wherein the compound is complexed with a radionuclide, wherein the radionuclide is technetium or rhenium.
64. (Withdrawn) The compound of claim 61, wherein  $m$  is 1.
65. (Withdrawn) The compound of claim 61, wherein  $n$  is 1.
66. (Withdrawn) The compound of claim 61, wherein  $m$  is 1; and  $n$  is 1.
67. (Withdrawn) The compound of claim 61, wherein  $R$  is absent.
68. (Withdrawn) The compound of claim 61, wherein  $R_2$  is a lipophilic group.
69. (Withdrawn) The compound of claim 61, wherein  $R_2$  is an ether, aralkyl, or alkylaryl.

70. (Withdrawn) The compound of claim 61, wherein R is absent; and R<sub>2</sub> is an ether, aralkyl, or alkylaryl.
71. (Withdrawn) The compound of claim 61, wherein m is 1; n is 1; R is absent; and R<sub>2</sub> is an ether, aralkyl, or alkylaryl.
72. (Withdrawn) The compound of claim 61, wherein m is 1; n is 1; R is absent; and R<sub>2</sub> is an ether, aralkyl, or alkylaryl; wherein the compound is complexed with a radionuclide.
73. (Withdrawn) The compound of claim 61, wherein m is 1; n is 1; R is absent; and R<sub>2</sub> is an ether, aralkyl, or alkylaryl; wherein the compound is complexed with a radionuclide, wherein said radionuclide is technetium or rhenium.
74. (Currently Amended) A compound of formula **H**:



**H**

wherein, independently for each occurrence,



X is -N(R<sup>2</sup>)-, or -O-[[, or -S-]];

R is halogen, alkyl, alkenyl, alkynyl, hydroxyl, alkoxyl, acyl, acyloxy, acylamino, silyloxy, amino, nitro, sulfhydryl, alkylthio, imino, amido, phosphoryl, phosphonate, phosphine, carbonyl, carboxyl, carboxamide, anhydride, silyl, thioalkyl, alkylsulfonyl, arylsulfonyl, selenoalkyl, ketone, aldehyde, ester, heteroalkyl, cyano, guanidine, amidine, acetal, ketal, amine oxide,

aryl, heteroaryl, aralkyl, heteroaralkyl, azido, aziridine, carbamoyl, epoxide, hydroxamic acid, imide, oxime, sulfonamide, thioamide, thiocarbamate, urea, thiourea, or  $-(CH_2)_d-R_{80}$ ;

$R_{80}$  is independently for each occurrence carboxaldehyde, carboxylate, carboxamido, alkoxycarbonyl, aryloxy carbonyl, ammonium, aryl, heteroaryl, cycloalkyl, cycloalkenyl, heterocyclyl, polycyclyl, amino acid, peptide, saccharide, ribonucleic acid, or (deoxy)ribonucleic acid, ~~or ligand for a G-protein-coupled receptor~~;

$R_2$  is H or a lipophilic group;

$R_3$  is a moiety comprising a neutral or anionic Lewis base, H, alkyl, hydroxyalkyl, alkoxyalkyl, aminoalkyl, thioalkyl, alkenyl, alkynyl, aryl, heteroaryl, aralkyl, heteroaralkyl, acyl, aminoacyl, hydroxyacyl, thioacyl, (amino)alkoxycarbonyl, (hydroxy)alkoxycarbonyl, (amino)alkylaminocarbonyl, (hydroxy)alkylaminocarbonyl,  $-CO_2H$ ,  $-(CH_2)_d-R_{80}$ , or an amino acid radical;

$d$  is an integer in the range 0 to 12 inclusive;

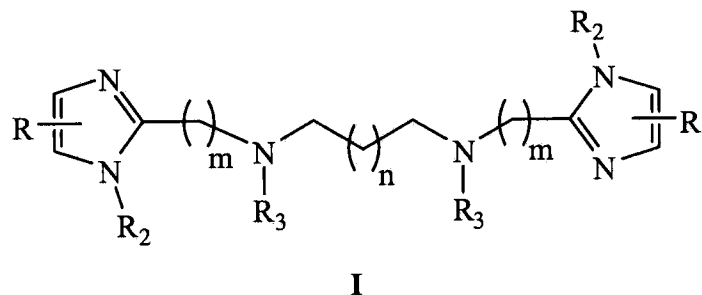
$m$  is an integer in the range 0 to 6 inclusive; and

$n$  is an integer in the range 0 to 6 inclusive.

75. (Original) The compound of claim 74, wherein the compound is complexed with a radionuclide.

76. (Original) The compound of claim 74, wherein the compound is complexed with a radionuclide, wherein the radionuclide is technetium or rhenium.

77. (Withdrawn-Currently Amended) A compound of formula I:



wherein, independently for each occurrence,

R is absent or present 1 or 2 times;

R is halogen, alkyl, alkenyl, alkynyl, hydroxyl, alkoxyl, acyl, acyloxy, acylamino, silyloxy, amino, nitro, sulfhydryl, alkylthio, imino, amido, phosphoryl, phosphonate, phosphine, carbonyl, carboxyl, carboxamide, anhydride, silyl, thioalkyl, alkylsulfonyl, arylsulfonyl, selenoalkyl, ketone, aldehyde, ester, heteroalkyl, cyano, guanidine, amidine, acetal, ketal, amine oxide, aryl, heteroaryl, aralkyl, heteroaralkyl, azido, aziridine, carbamoyl, epoxide, hydroxamic acid, imide, oxime, sulfonamide, thioamide, thiocarbamate, urea, thiourea, or  $-(CH_2)_d-R_{80}$ ;

$R_{80}$  is carboxaldehyde, carboxylate, carboxamido, alkoxycarbonyl, aryloxy carbonyl, ammonium, aryl, heteroaryl, cycloalkyl, cycloalkenyl, heterocyclyl, polycyclyl, amino acid, peptide, saccharide, ribonucleic acid, or (deoxy)ribonucleic acid, ~~or ligand for a G-protein coupled receptor~~;

$R_2$  is H or a lipophilic group;

$R_3$  is a moiety comprising a neutral or anionic Lewis base, H, alkyl, hydroxyalkyl, alkoxyalkyl, aminoalkyl, thioalkyl, alkenyl, alkynyl, aryl, heteroaryl, aralkyl, heteroaralkyl, acyl, aminoacyl, hydroxyacyl, thioacyl, (amino)alkoxycarbonyl, (hydroxy)alkoxycarbonyl, (amino)alkylaminocarbonyl, (hydroxy)alkylaminocarbonyl,  $-CO_2H$ ,  $-(CH_2)_d-R_{80}$ , or an amino acid radical;

d is an integer in the range 0 to 12 inclusive;

m is an integer in the range 0 to 6 inclusive; and

n is an integer in the range 0 to 6 inclusive.

78. (Withdrawn) The compound of claim 77, wherein the compound is complexed with a radionuclide.
79. (Withdrawn) The compound of claim 77, wherein the compound is complexed with a radionuclide, wherein the radionuclide is technetium or rhenium.
80. (Withdrawn) The compound of claim 77, wherein m is 1.
81. (Withdrawn) The compound of claim 77, wherein n is 1.
82. (Withdrawn) The compound of claim 77, wherein m is 1; and n is 1.
83. (Withdrawn) The compound of claim 77, wherein R is absent.
84. (Withdrawn) The compound of claim 77, wherein R<sub>2</sub> is a lipophilic group.
85. (Withdrawn) The compound of claim 77, wherein R<sub>2</sub> is an ether, aralkyl, or alkylaryl.
86. (Withdrawn) The compound of claim 77, wherein R<sub>3</sub> is a moiety comprising an anionic Lewis base.
87. (Withdrawn) The compound of claim 77, wherein R<sub>3</sub> is a carboxylate, thiolate, or phenolate.
88. (Withdrawn) The compound of claim 77, wherein R is absent; and R<sub>2</sub> is an ether, aralkyl, or alkylaryl.
89. (Withdrawn) The compound of claim 77, wherein R is absent; R<sub>2</sub> is an ether, aralkyl, or alkylaryl; and R<sub>3</sub> is a carboxylate, thiolate, or phenolate.
90. (Withdrawn) The compound of claim 77, wherein m is 1; n is 1; R is absent; and R<sub>2</sub> is an ether, aralkyl, or alkylaryl.

91. (Withdrawn) The compound of claim 77, wherein m is 1; n is 1; R is absent; R<sub>2</sub> is an ether, aralkyl, or alkylaryl; and R<sub>3</sub> is a carboxylate, thiolate, or phenolate.
92. (Withdrawn) The compound of claim 77, wherein m is 1; n is 1; R is absent; and R<sub>2</sub> is an ether, aralkyl, or alkylaryl; wherein said compound is complexed with a radionuclide.
93. (Withdrawn) The compound of claim 77, wherein m is 1; n is 1; R is absent; R<sub>2</sub> is an ether, aralkyl, or alkylaryl; and R<sub>3</sub> is a carboxylate, thiolate, or phenolate; wherein the compound is complexed with a radionuclide.
94. (Withdrawn) The compound of claim 77, wherein m is 1; n is 1; R is absent; and R<sub>2</sub> is an ether, aralkyl, or alkylaryl; wherein the compound is complexed with a radionuclide, wherein the radionuclide is technetium or rhenium.
95. (Withdrawn) The compound of claim 77, wherein m is 1; n is 1; R is absent; R<sub>2</sub> is an ether, aralkyl, or alkylaryl; and R<sub>3</sub> is a carboxylate, thiolate, or phenolate; wherein the compound is complexed with a radionuclide, wherein the radionuclide is technetium or rhenium.
- 96-132. (Canceled)
133. (Currently Amended) A formulation, comprising a compound according to any of claims [[28, 54, ]]58, 61, 74, 77[[, 96, 99]]; and a pharmaceutically acceptable excipient.
134. (Withdrawn-Currently Amended) A method of imaging a region in a patient, comprising the steps of: administering to a patient a diagnostically effective amount of a compound of claim ~~29, 30, 55, 56~~, 59, 60, 62, 63, 72, 73, 75, 76, 78, 79, or ~~92-95, 97, 98, 100, 101, 117-120, or 125-128~~; and obtaining an image of said region of said patient.
135. (Withdrawn) The method of claim 134, wherein said region of said patient is the head or thorax.



136. (Canceled)